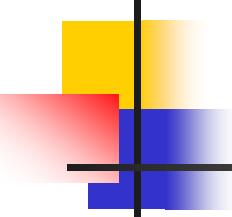


The State of the Economy and Prospects for Tax Revenue in Tennessee

presented to
Tennessee State Funding Board
Nashville, Tennessee
December 11, 2014

by
Albert E. DePrince, Jr.
Professor of Economics and Finance
Jennings A. Jones College of Business
Middle Tennessee State University
Murfreesboro, Tennessee
albert.deprince@mtsu.edu



The State of the Economy and Prospects for Tax Revenue in Tennessee

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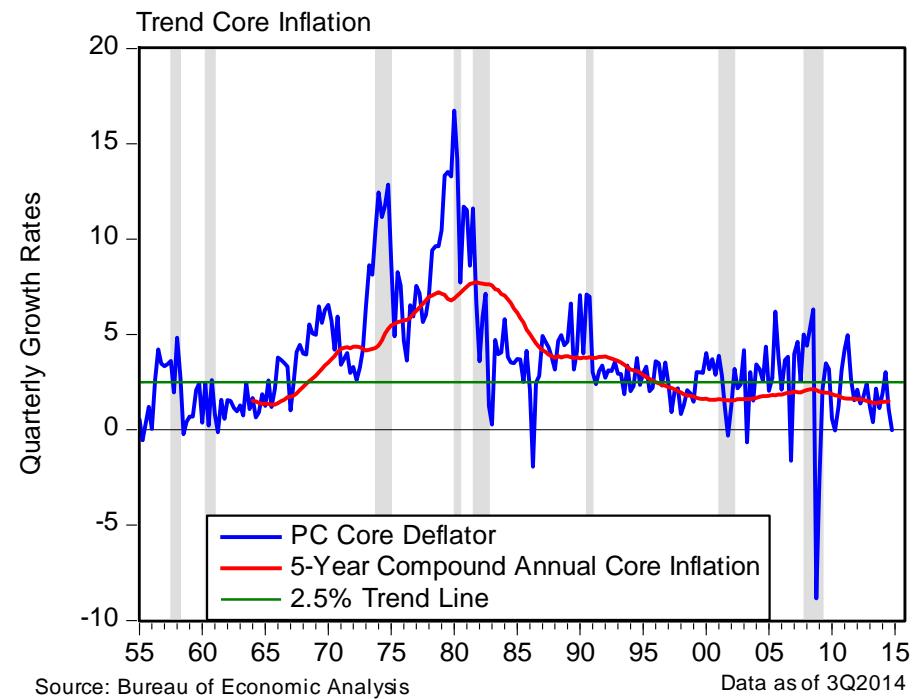
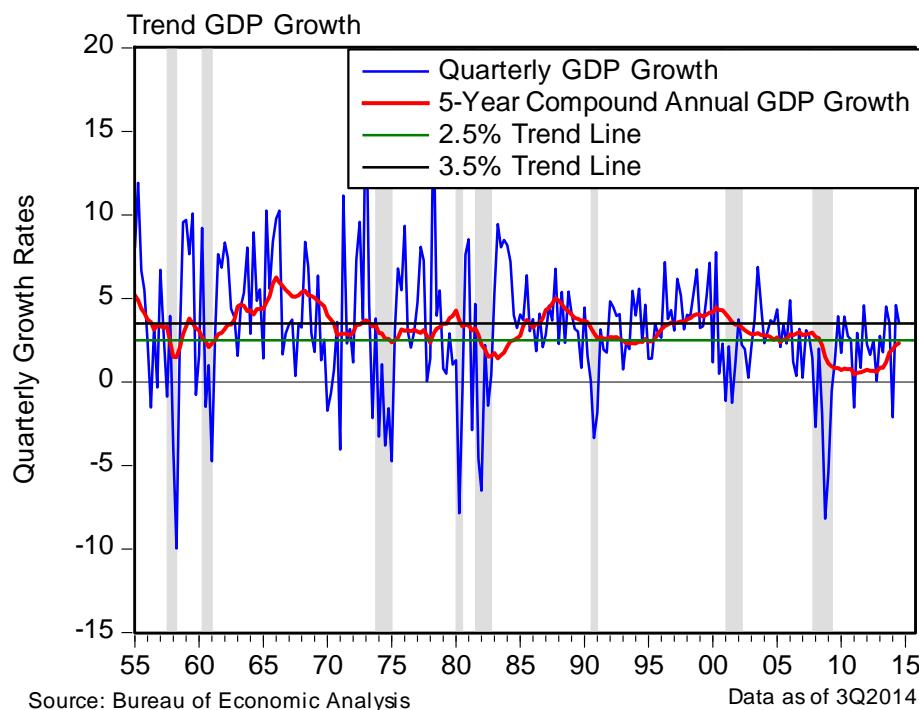
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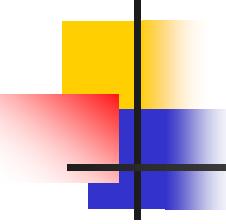
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Growth and Inflation

The New Normal or Misaligned Relations

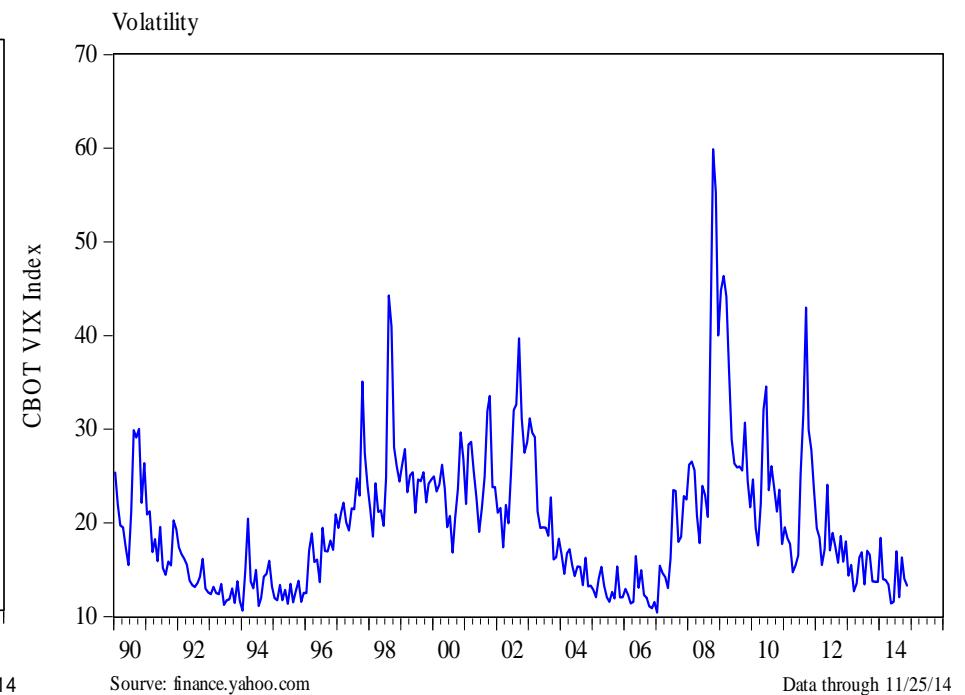
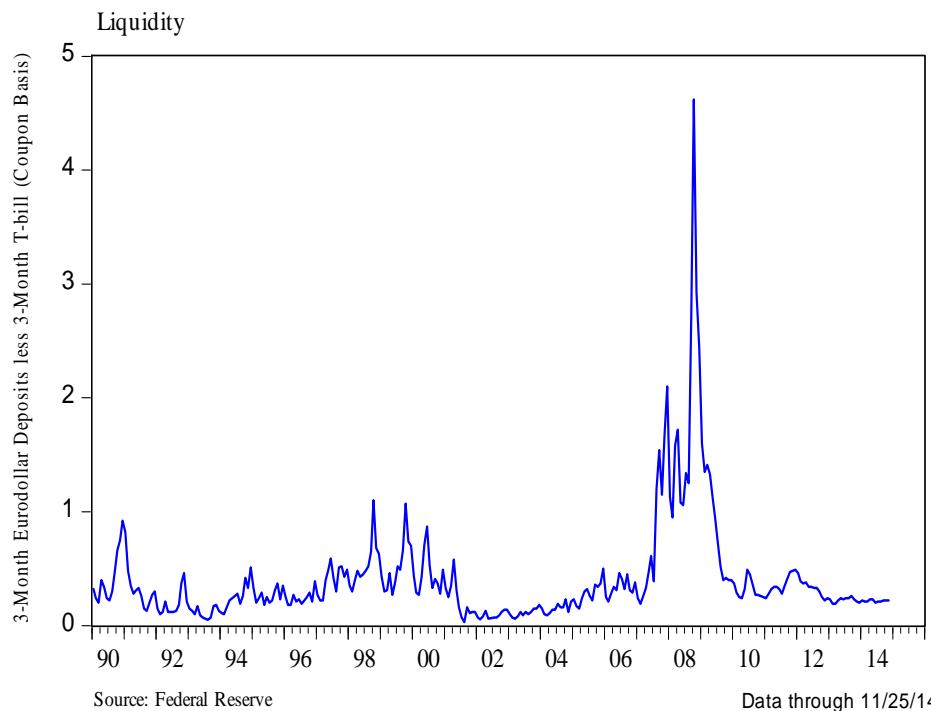


shaded areas represent recession periods



Financial Liquidity and Risk

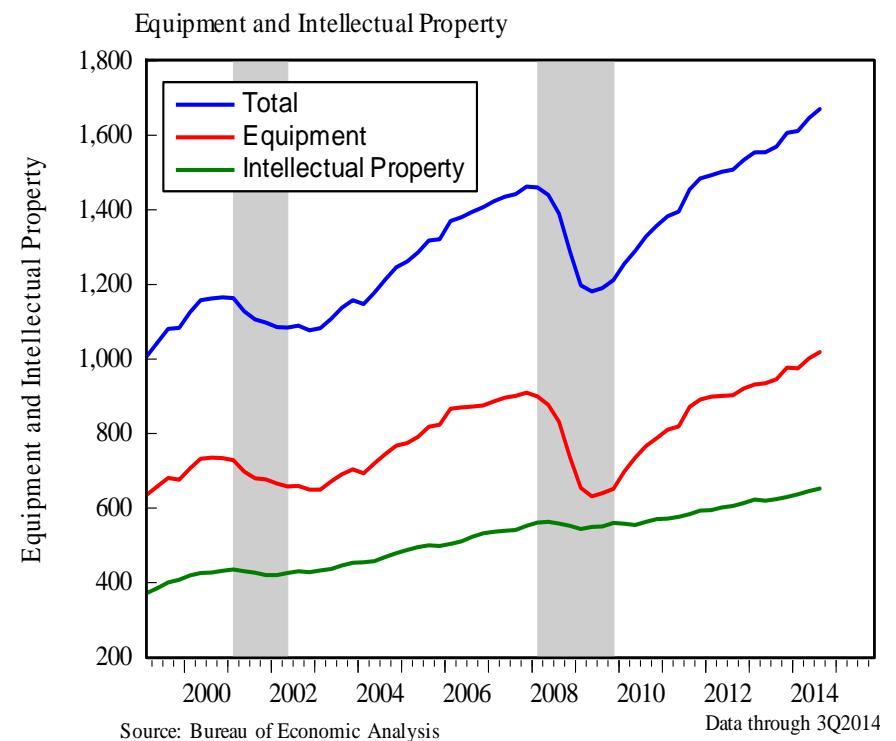
Return to Normality



The Business Cycle

Business Equipment and Software

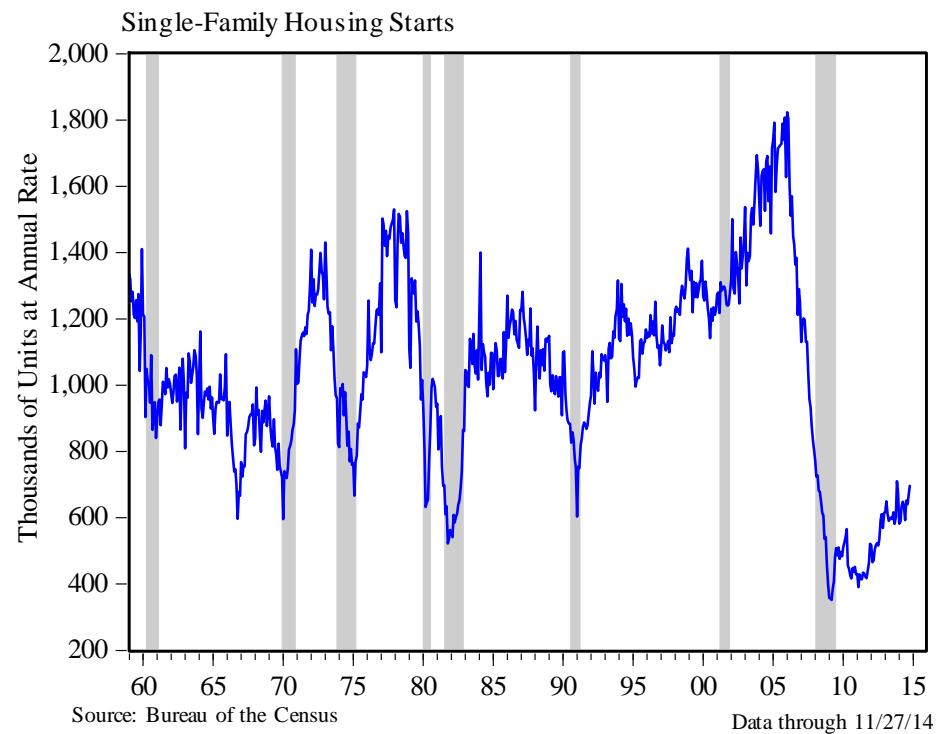
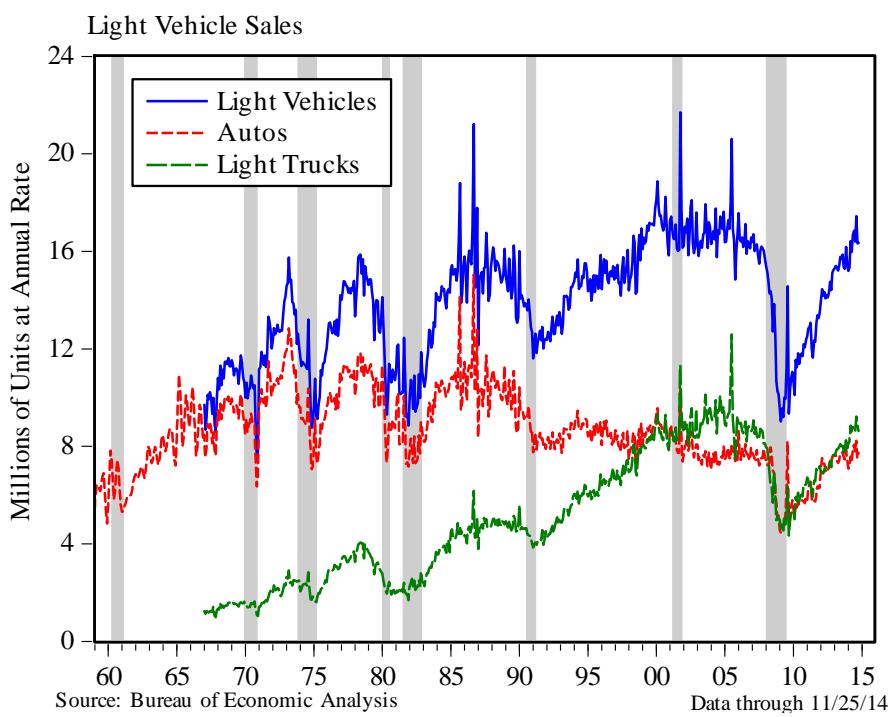
- Data organization was revised last year
- Split is now between equipment (including computers) and intellectual property
- Before the split was between equipment and information processing equipment
- Decline in equipment spending was sharp in last recession
- Decline in intellectual property was very mild
- Rebound in equipment began as recession ended
- Intellectual property growth remained consistent with prior expansion



shaded areas represent recession periods

The Business Cycle

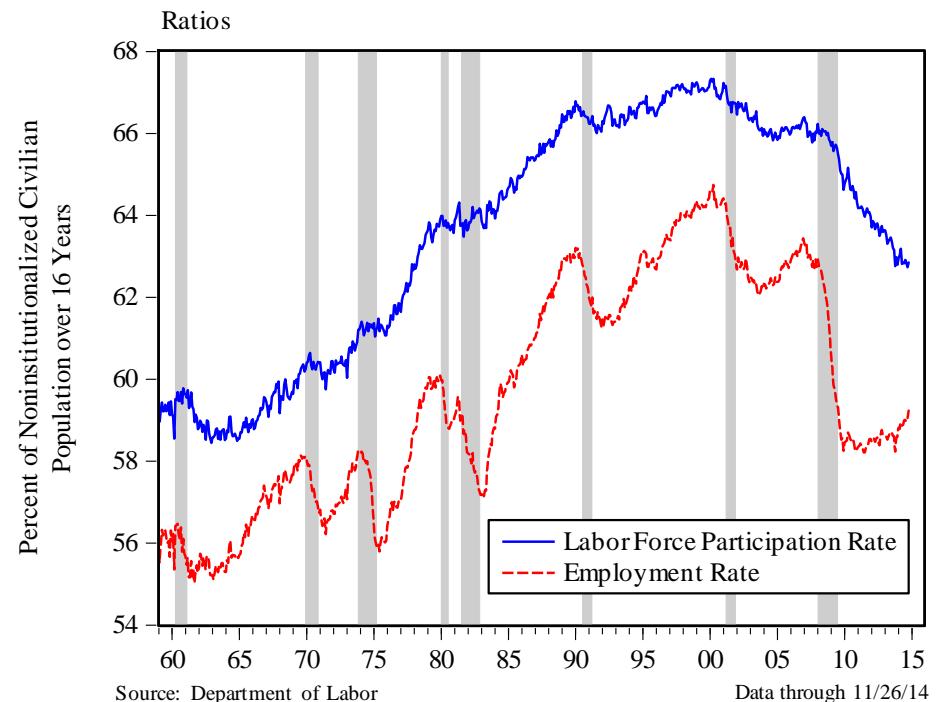
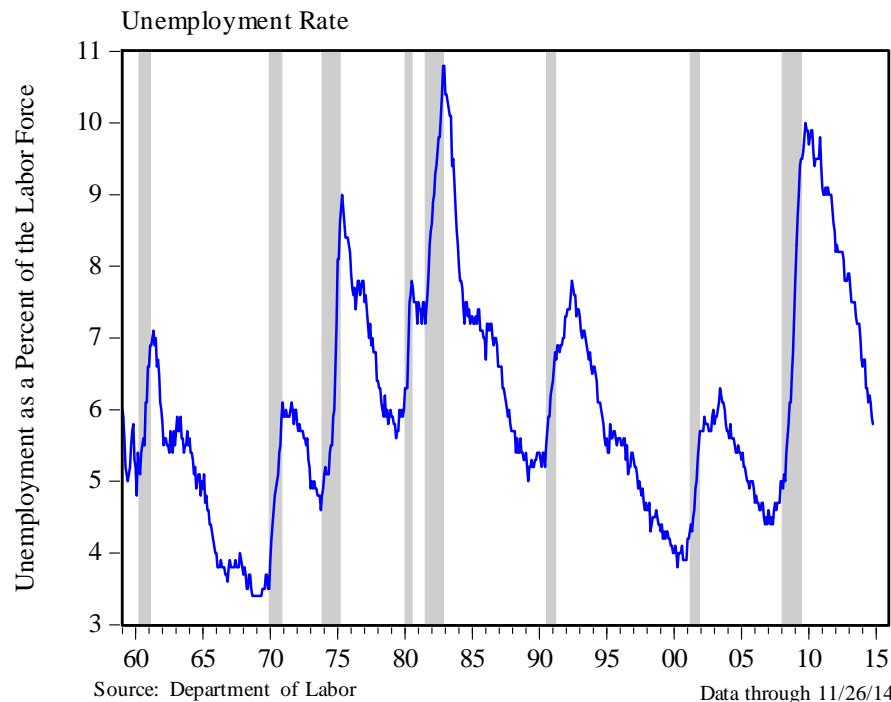
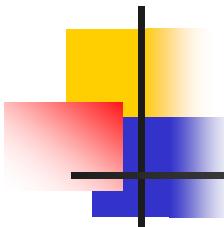
Light Vehicle Sales and Housing



shaded areas represent recession periods

The Business Cycle

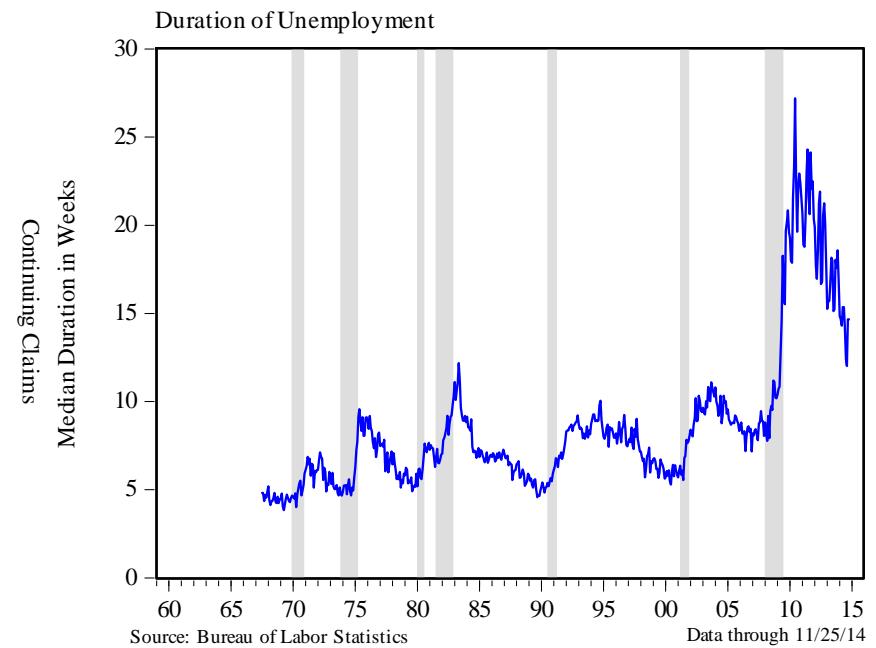
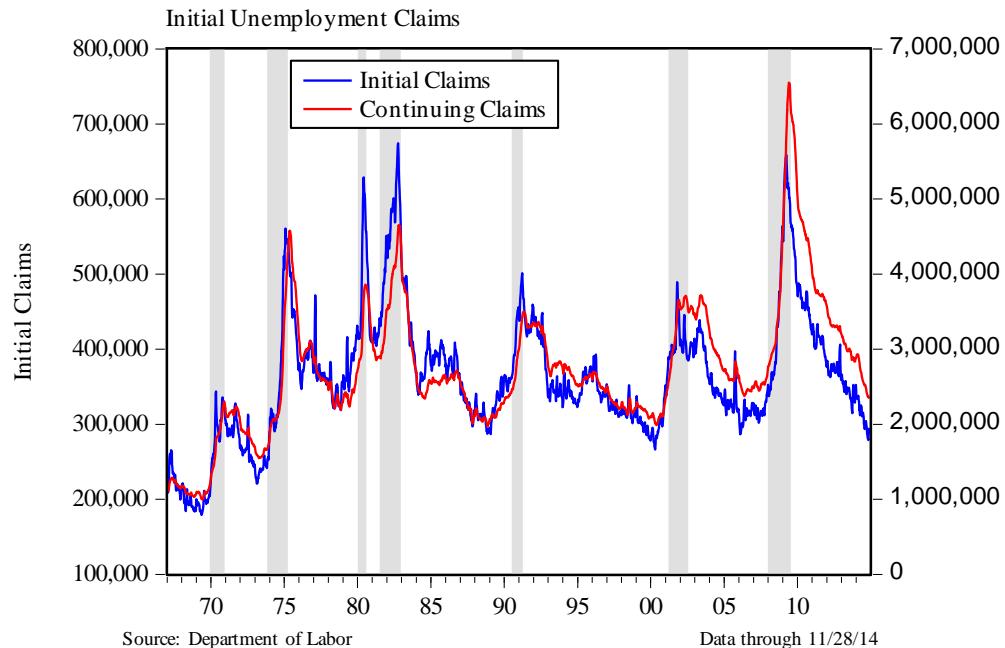
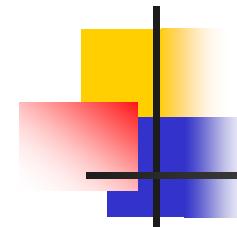
Unemployment Rate, Labor Force Participation Rate and Employment Ratio



shaded areas represent recession periods

The Business Cycle

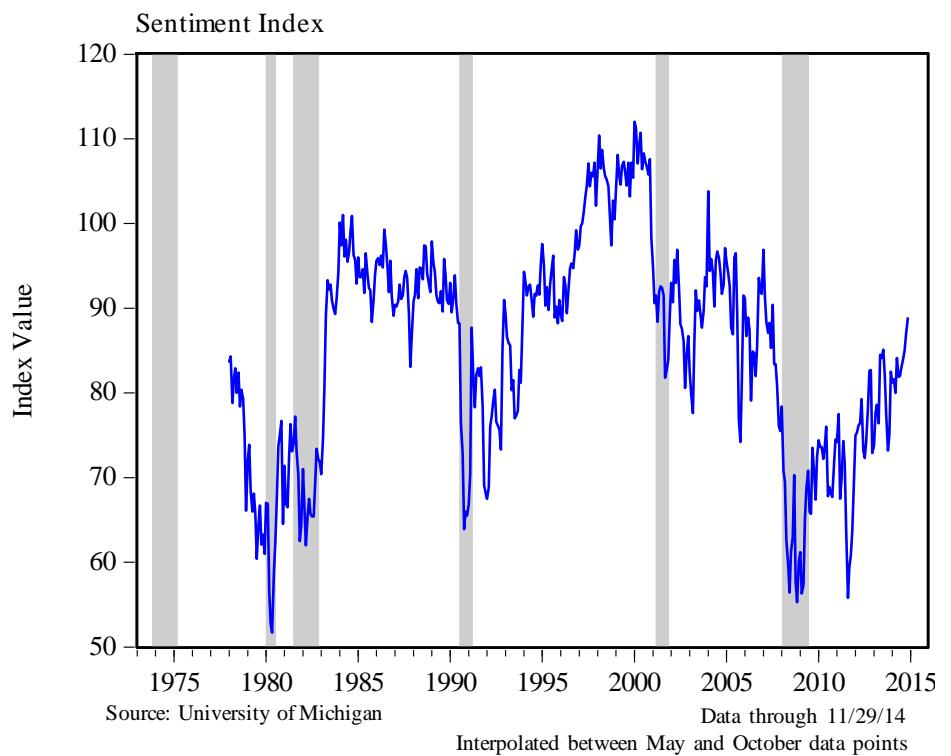
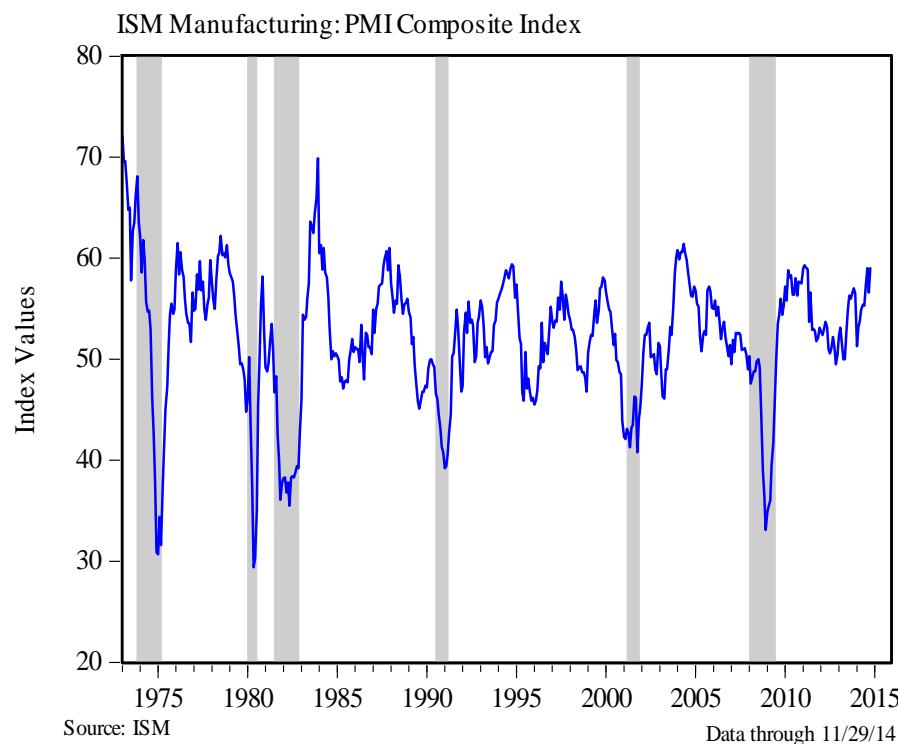
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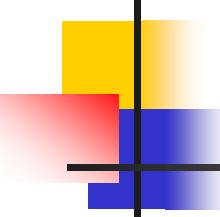
shaded areas represent recession periods

The Business Cycle and Forward Looking Indexes

Business and Consumer Sentiment



shaded areas represent recession periods



U.S. Economy: Potential Flash Points

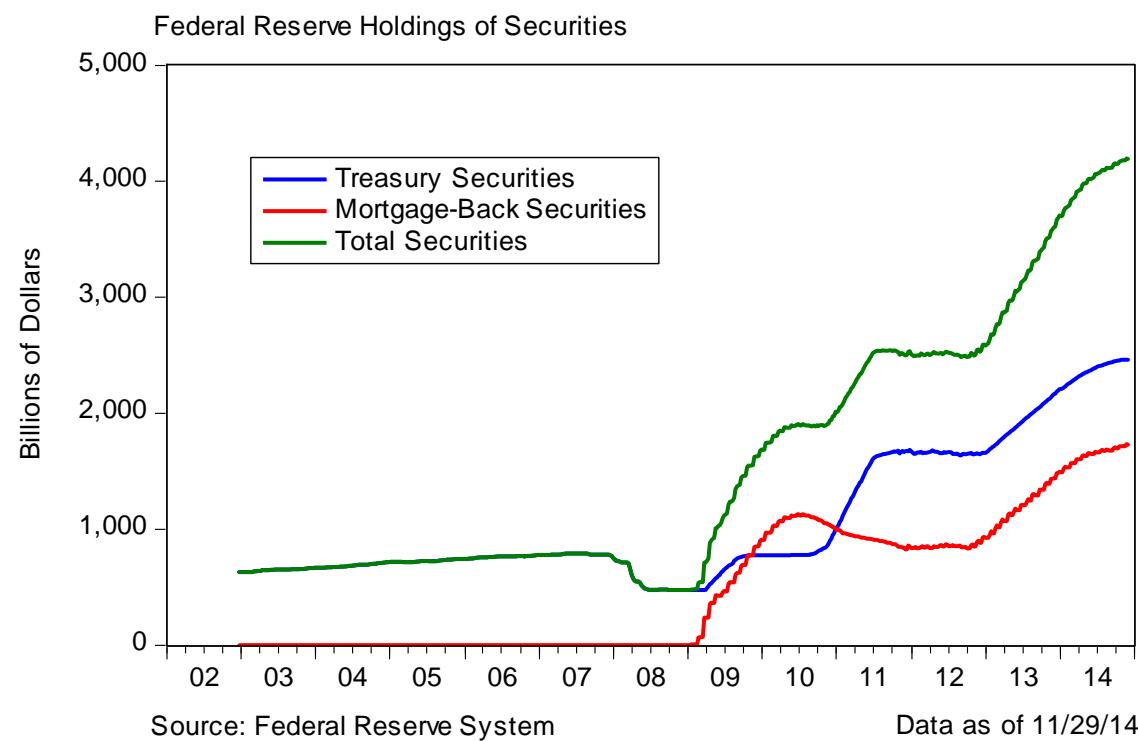
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- On-going Mid-East Instability
- Stalemate Over Iranian Nuclear Programs
- Russian problems
 - Sanctions
 - Plunging oil price
 - Sagging FX rate
- Chinese Adventurism
 - Air defense zones
 - Carrier Task Force
- Disappointing global growth
 - Weakness in Europe
 - Weakness in Japan
 - Weakness in China
- Hong Kong unrest could spread to China if economic downturn develops

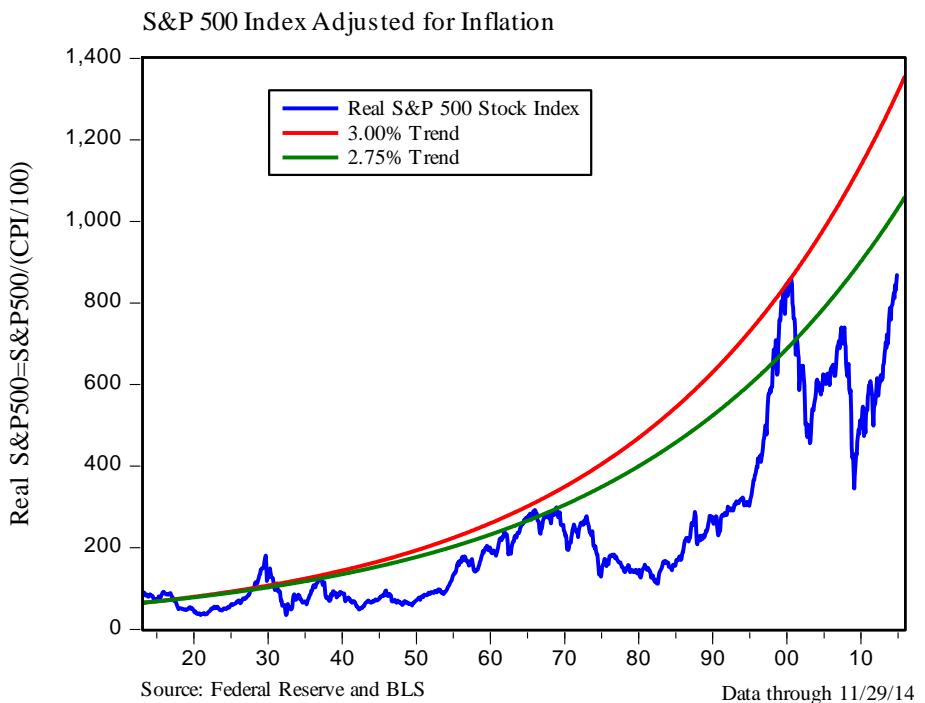
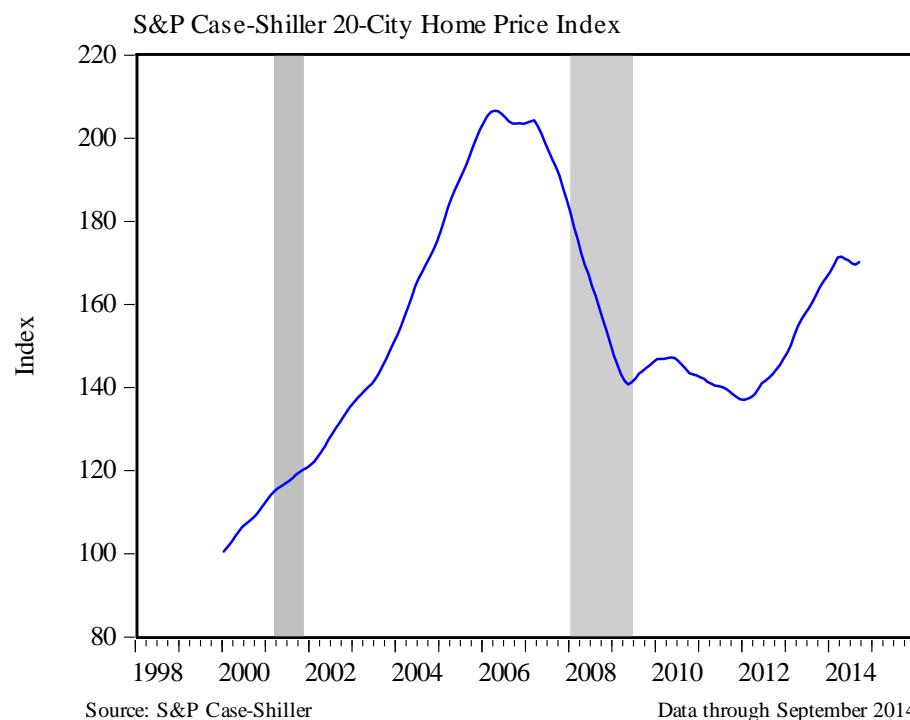
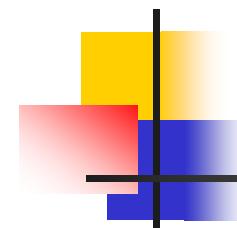
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- Investor Risk Appetites
 - Risk-on / Risk-off Behavior
- Adverse effects of increased asset price volatility
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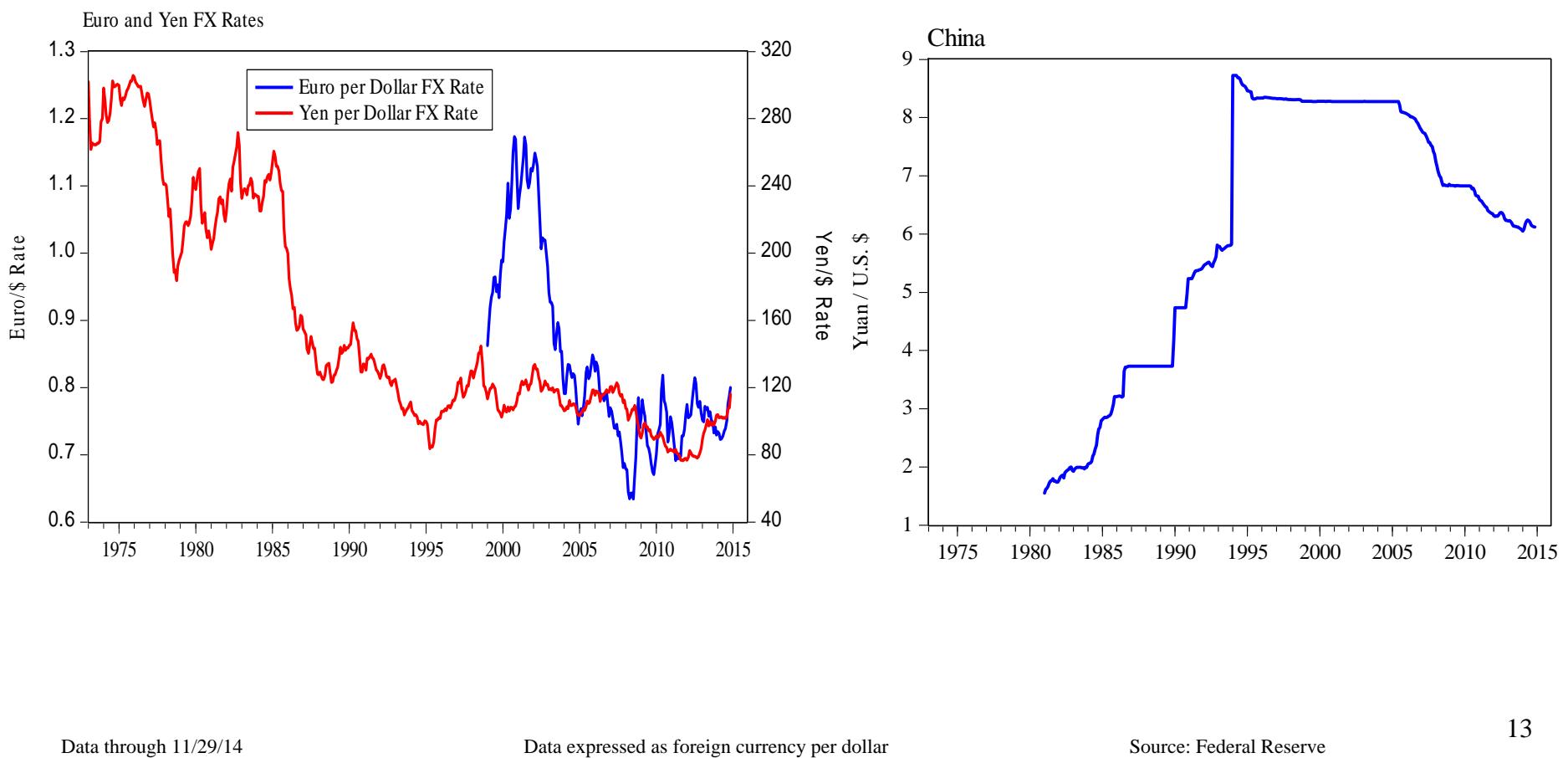
Quantitative Easing: *The Extent in Perspective*



Quantitative Easing: *Effects on Housing Prices and Equity Values*

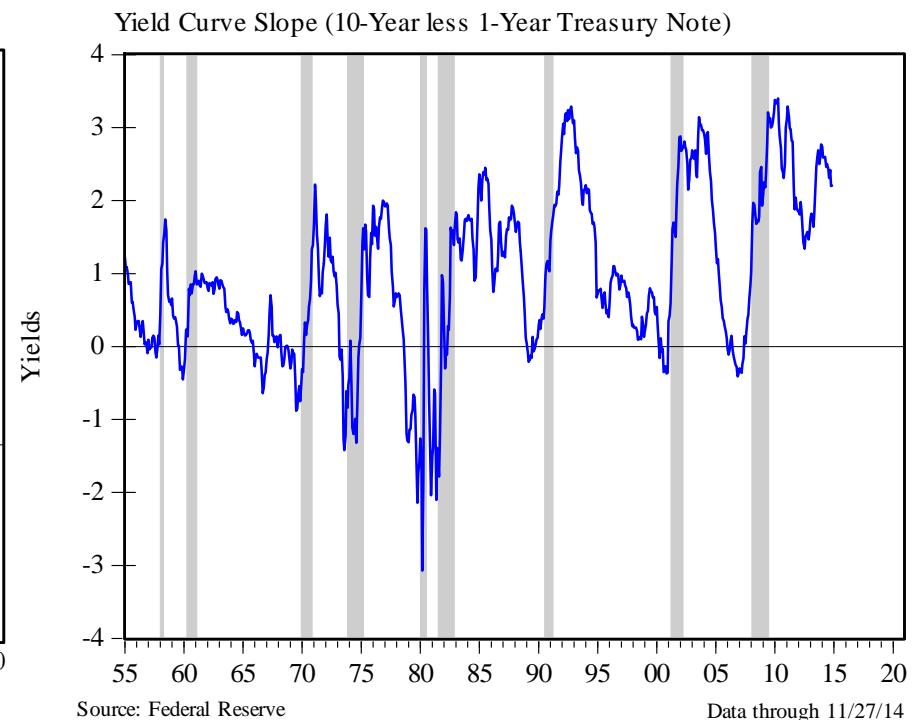
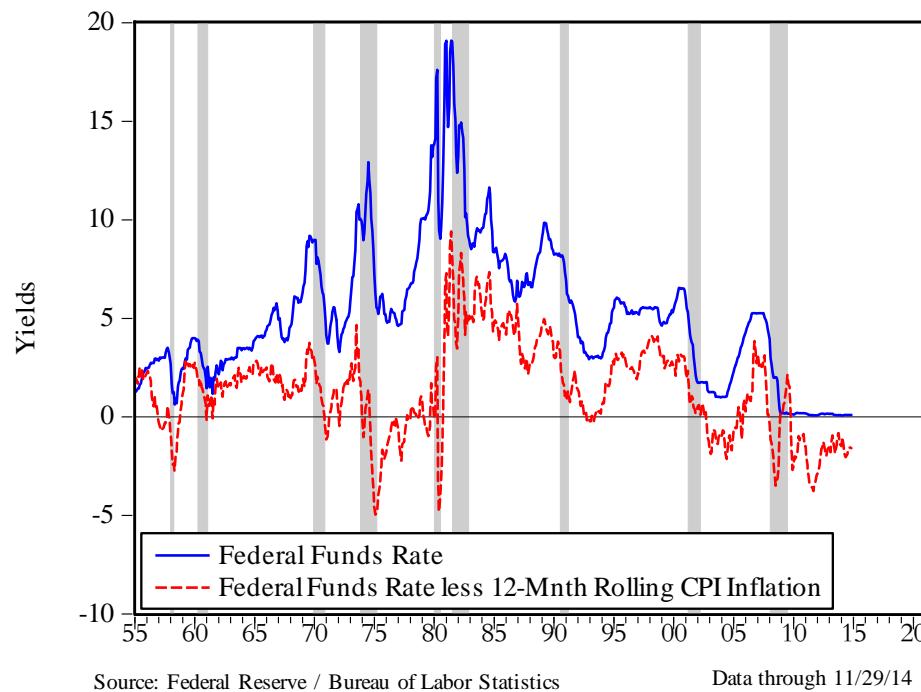


Quantitative Easing: *Effects on Exchange rates*

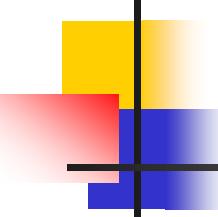


Setting the Stage for the U.S. Outlook

The Interest Rate Regime



shaded areas represent recession periods



Setting the Stage for the U.S. Outlook

The FOMC Short- and Long-Term Forecasts

Variable	Central Tendency					Range				
	2014	2015	2016	2017	Longer run	2014	2015	2016	2017	Longer run
Change in real GDP	2.0 to 2.2	2.6 to 3.0	2.6 to 2.9	2.3 to 2.5	2.0 to 2.3	1.8 to 2.3	2.1 to 3.2	2.1 to 3.0	2.0 to 2.6	1.8 to 2.6
June projection	2.1 to 2.3	3.0 to 3.2	2.5 to 3.0	n.a.	2.1 to 2.3	1.9 to 2.4	2.2 to 3.6	2.2 to 3.2	n.a.	1.8 to 2.5
Unemployment rate	5.9 to 6.0	5.4 to 5.6	5.1 to 5.4	4.9 to 5.3	5.2 to 5.5	5.7 to 6.1	5.2 to 5.7	4.9 to 5.6	4.7 to 5.8	5.0 to 6.0
June projection	6.0 to 6.1	5.4 to 5.7	5.1 to 5.5	n.a.	5.2 to 5.5	5.8 to 6.2	5.2 to 5.9	5.0 to 5.6	n.a.	5.0 to 6.0
PCE inflation	1.5 to 1.7	1.6 to 1.9	1.7 to 2.0	1.9 to 2.0	2	1.5 to 1.8	1.5 to 2.4	1.6 to 2.1	1.7 to 2.2	2
June projection	1.5 to 1.7	1.5 to 2.0	1.6 to 2.0	n.a.	2	1.4 to 2.0	1.4 to 2.4	1.5 to 2.0	n.a.	2
Core PCE inflation	1.5 to 1.6	1.6 to 1.9	1.8 to 2.0	1.9 to 2.0		1.5 to 1.8	1.6 to 2.4	1.7 to 2.2	1.8 to 2.2	
June projection	1.5 to 1.6	1.6 to 2.0	1.7 to 2.0	n.a.		1.4 to 1.8	1.5 to 2.4	1.6 to 2.0	n.a.	
Source: Federal Open Market Committee						Reported at the September FOMC meeting				

Baseline Economic Outlook

General Overview

	2014				2015				2016				Year-over-Year Growth		
	I(A) 2014	II(A) 2014	III(A) 2014	IV(A/E) 2014	I(E) 2015	II(E) 2015	III(E) 2015	IV(E) 2015	I(E) 2016	II(E) 2016	III(E) 2016	IV(E) 2016	2014	2015	2016
1 Gross Domestic Product	17044.0	17328.2	17535.4	17763.3	17943.6	18134.0	18344.6	18561.8	18780.7	19009.5	19245.1	19480.4	3.9	4.8	4.8
2 Change *	5.0	5.0	5.0	5.3	4.1	4.3	4.7	4.8	4.8	5.0	5.1	5.0			
3 Gross Dom. Product ('96\$)	15831.7	16010.4	16150.6	16292.8	16391.8	16490.2	16598.7	16708.0	16814.4	16926.7	17042.8	17155.5	2.3	3.0	2.6
4 Change *	-2.1	4.6	3.5	3.6	2.5	2.4	2.7	2.7	2.6	2.7	2.8	2.7			
5 Personal Consump. Exp. ('96\$)	10844.3	10912.6	10960.9	11038.8	11098.7	11165.5	11232.5	11302.7	11375.3	11447.6	11525.2	11604.3	2.2	2.4	2.6
6 Change *	1.2	2.5	1.8	2.9	2.2	2.4	2.4	2.5	2.6	2.6	2.7	2.8			
7 Equipment and Software ('96\$)	1642.0	1679.3	1704.5	1722.7	1739.5	1757.5	1775.5	1796.6	1815.5	1836.1	1857.2	1876.7	5.8	4.8	4.5
8 Change *	1.9	9.4	6.1	4.3	4.0	4.2	4.2	4.8	4.3	4.6	4.7	4.3			
9 Nonresid. Construction ('96\$)	441.9	455.2	459.4	463.5	467.2	471.2	474.5	477.6	480.3	483.8	487.1	490.4	7.9	3.9	2.7
10 Change *	2.9	12.6	3.7	3.6	3.3	3.5	2.8	2.6	2.3	2.9	2.8	2.7			
11 Resid. Construction ('96\$)	485.3	495.6	497.9	507.7	513.3	518.0	522.8	530.0	533.4	539.5	546.1	549.8	1.7	4.9	4.1
12 Change *	-5.3	8.8	1.9	8.1	4.5	3.8	3.8	5.6	2.5	4.7	5.0	2.7			
13 Federal Defense ('96\$)	693.9	695.4	721.6	719.5	722.2	723.5	724.5	725.5	726.6	727.7	728.8	729.8	-1.4	2.3	0.6
14 Change *	-4.0	0.9	15.9	-1.2	1.5	0.7	0.6	0.6	0.6	0.6	0.6	0.6			
15 Fed. Nondefense ('96\$)	423.4	419.4	419.9	422.0	424.3	426.6	428.9	431.2	433.5	435.8	438.2	440.5	-1.5	1.6	2.2
16 Change *	6.6	-3.7	0.5	2.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2			
17 State + Local ('96\$)	1750.2	1764.7	1770.6	1774.6	1778.5	1781.7	1785.3	1788.7	1791.9	1794.9	1798.0	1800.9			
18 Change *	-1.2	3.4	1.3	0.9	0.9	0.7	0.8	0.8	0.7	0.7	0.7	0.7	0.9	1.0	0.7
19 Net Exports ('96\$)	-447.2	-460.4	-409.9	-408.2	-403.5	-400.5	-396.1	-393.3	-389.8	-386.6	-385.1	-383.5			
20 Chg. in Bus. Invent. ('96\$)	35.2	84.8	62.8	52.3	51.7	46.8	50.7	48.9	47.8	47.8	47.3	46.6			
21 Nonfarm Inventories	33.3	80.7	53.1	48.0	48.4	44.6	49.1	47.7	46.9	47.1	46.7	46.1			
22 Farm Inventories	2.2	4.8	8.8	4.3	3.3	2.2	1.6	1.1	0.9	0.7	0.6	0.5			
23 GNP Deflator ('96=100) *	1.3	2.1	1.3	1.7	1.6	1.8	2.0	2.1	2.2	2.2	2.2	2.2	1.5	1.7	2.1
24 CPI (1982-84=100) *	1.9	3.0	1.1	1.5	1.5	1.8	1.9	2.2	2.4	2.4	2.5	2.5	1.8	1.7	2.3
25 PPI (1982=100) *	4.0	3.9	0.7	0.5	0.8	1.1	1.4	1.6	1.8	1.8	1.9	1.9	2.3	1.1	1.7

A = Actual; E = Forecast

* Annualized percent change

Except for price indexes, all data in billions of dollars

Historical sources: BEA and BLS November 26, 2015

Baseline Economic Outlook

Cyclical Characteristics

	I(A) 2014	II(A) 2014	III(A) 2014	IV(A/E) 2014	I(E) 2015	II(E) 2015	III(E) 2015	IV(E) 2015	I(E) 2016	II(E) 2016	III(E) 2016	IV(E) 2016	Year-over-Year Growth 2014	2015	2016
1 Domestic Final Sales ('96\$)	16243.7	16386.0	16497.7	16648.7	16743.6	16843.9	16944.1	17052.4	17156.5	17265.4	17380.6	17492.4	2.7	2.4	2.6
2 Change *	0.6	3.6	2.8	3.7	2.3	2.4	2.4	2.6	2.5	2.6	2.7	2.6			
3 Cyclical Domestic Demand ('96\$)	3924.2	4030.5	4086.7	4135.8	4182.4	4226.4	4268.9	4316.8	4358.8	4404.3	4453.0	4497.1	5.8	5.1	4.2
4 Change *	1.5	11.3	5.7	4.9	4.6	4.3	4.1	4.6	4.0	4.2	4.5	4.0			
5 Cyclical Consumer Demand ('96\$)	1355.0	1400.4	1424.9	1441.9	1462.4	1479.7	1496.0	1512.6	1529.6	1544.9	1562.6	1580.3	6.6	5.8	4.5
6 Change *	3.2	14.1	7.2	4.9	5.8	4.8	4.5	4.5	4.6	4.1	4.6	4.6			
7 Light Vehicles and Parts ('96\$)	385.7	402.9	412.5	417.7	424.5	428.8	432.8	436.4	440.2	442.3	444.1	445.8	7.6	6.4	2.9
8 Change *	5.6	19.1	9.9	5.1	6.7	4.1	3.8	3.3	3.5	2.0	1.7	1.5			
9 Other Durables ('96\$)	969.3	997.5	1012.4	1024.3	1037.8	1050.8	1063.2	1076.2	1089.5	1102.6	1118.4	1134.4	6.1	5.6	5.1
10 Change *	2.2	12.2	6.1	4.8	5.4	5.1	4.8	5.0	5.0	4.9	5.9	5.9			
11 Fixed Investment ('96\$)	2536.1	2594.5	2624.6	2693.8	2720.0	2746.7	2772.9	2804.2	2829.2	2859.4	2890.4	2916.8	5.4	5.7	4.1
12 Change *	0.2	9.5	4.7	11.0	3.9	4.0	3.9	4.6	3.6	4.3	4.4	3.7			
13 Resid. Construction (96\$)	485.3	495.6	497.9	507.7	513.3	518.0	522.8	530.0	533.4	539.5	546.1	549.8	1.7	4.9	4.1
14 Change *	-5.3	8.8	1.9	8.1	4.5	3.8	3.8	5.6	2.5	4.7	5.0	2.7			
15 Nonresid. Construction ('96\$)	441.9	455.2	459.4	463.5	467.2	471.2	474.5	477.6	480.3	483.8	487.1	490.4	7.9	3.9	2.7
16 Change *	2.9	12.6	3.7	3.6	3.3	3.5	2.8	2.6	2.3	2.9	2.8	2.7			
17 Equipment and Software ('96\$)	1642.0	1679.3	1704.5	1722.7	1739.5	1757.5	1775.5	1796.6	1815.5	1836.1	1857.2	1876.7	5.8	4.8	4.5
18 Change *	1.9	9.4	6.1	4.3	4.0	4.2	4.2	4.8	4.3	4.6	4.7	4.3			
19 Noncyclical Demand ('96\$)@	11907.5	11979.9	12063.9	12157.0	12209.4	12263.8	12329.8	12391.2	12455.6	12522.4	12589.8	12658.4	1.2	2.3	2.1
20 Change *	-3.3	2.5	2.8	3.1	1.7	1.8	2.2	2.0	2.1	2.2	2.2	2.2			
21 Chg. in Business Inventories	35.2	84.8	62.8	52.3	51.7	46.8	50.7	48.9	47.8	47.8	47.3	46.6			
22 Gross Domestic Purchases ('96\$)&	16317.2	16508.1	16598.5	16701.0	16795.3	16890.7	16994.8	17101.3	17204.3	17313.3	17427.9	17539.0	2.3	2.5	2.5
23 Change *	-0.4	4.8	2.2	2.5	2.3	2.3	2.5	2.5	2.4	2.6	2.7	2.6			
24 Net Exports ('96\$)	-447.2	-460.4	-409.9	-408.2	-403.5	-400.5	-396.1	-393.3	-389.8	-386.6	-385.1	-383.5			
25 GDP ('96\$)**	15831.7	16010.4	16150.6	16292.8	16391.8	16490.2	16598.7	16708.0	16814.4	16926.7	17042.8	17155.5	2.3	3.0	2.6
Change *	-2.1	4.6	3.5	3.6	2.5	2.4	2.7	2.7	2.6	2.7	2.8	2.7			

@ Noncyclical Demand = Consumer spending on nondurable goods and services and all forms of government spending (excluding CCC inventories)

& Gross Domestic Purchases = Domestic final demand plus Change *

A = Actual; E = Forecast

* Annualized percent change

Except for price indexes, all data in billions of dollars

Historical sources: BEA and BLS November 26, 2014

Baseline Economic Outlook

Household Sector

	2014				2015				2016				Year-over-Year Growth		
	I(A) 2014	II(A) 2014	III(A) 2014	IV(A/E) 2014	I(E) 2015	II(E) 2015	III(E) 2015	IV(E) 2015	I(E) 2016	II(E) 2016	III(E) 2016	IV(E) 2016	2014	2015	2016
1 Personal Income (\$ Bil.)	14484.7	14707.7	14860.6	15012.5	15143.0	15284.5	15433.2	15587.1	15743.1	15903.3	16068.5	16234.5	4.2	4.0	4.1
2 Change *	4.9	6.3	4.2	4.2	3.5	3.8	3.9	4.0	4.1	4.1	4.2	4.2			
3 Civilian Employment (Mil.)	145.4	145.9	146.4	146.8	147.1	147.5	147.8	148.2	148.6	148.9	149.3	149.7	1.5	1.0	1.0
4 Change *	3.5	1.4	1.5	1.1	0.8	1.0	0.9	1.0	1.0	1.0	1.1	1.1			
5 Unemployment Rate	6.7	6.2	6.1	5.8	5.7	5.8	5.8	5.8	5.5	5.6	5.6	5.3	6.2	5.8	5.5
6 Personal Consump. Exp. ('96\$)	10844.3	10912.6	10960.9	11038.8	11098.7	11165.5	11232.5	11302.7	11375.3	11447.6	11525.2	11604.3	2.2	2.4	2.6
7 Change *	1.2	2.5	1.8	2.9	2.2	2.4	2.4	2.5	2.6	2.6	2.7	2.8			
8 Autos & Parts	385.7	402.9	412.5	417.7	424.5	428.8	432.8	436.4	440.2	442.3	444.1	445.8	7.6	6.4	2.9
9 Change *	5.6	19.1	9.9	5.1	6.7	4.1	3.8	3.3	3.5	2.0	1.7	1.5			
10 Other Durable Goods	969.3	997.5	1012.4	1024.3	1037.8	1050.8	1063.2	1076.2	1089.5	1102.6	1118.4	1134.4	6.1	5.6	5.1
11 Change *	2.2	12.2	6.1	4.8	5.4	5.1	4.8	5.0	5.0	4.9	5.9	5.9			
12 Nondurable Goods	2341.9	2354.6	2361.3	2369.2	2379.8	2394.0	2407.3	2421.3	2435.4	2449.8	2465.6	2481.5	1.5	1.9	2.4
13 Change *	0.0	2.2	1.1	1.3	1.8	2.4	2.2	2.3	2.4	2.4	2.6	2.6			
14 Services	7165.4	7181.4	7201.6	7227.7	7256.5	7291.8	7329.2	7368.9	7410.2	7452.9	7497.1	7542.4	1.7	1.6	2.2
15 Change *	1.3	0.9	1.1	1.5	1.6	2.0	2.1	2.2	2.3	2.3	2.4	2.4			
16 Lt. Vehicles	15.7	16.5	16.7	16.8	16.9	17.0	17.0	17.0	17.0	17.0	17.0	17.0	5.8	3.3	0.2
17 Change *	0.4	23.4	5.6	1.8	3.3	0.4	0.5	0.3	0.8	-0.3	-0.5	-0.6			
18 New Auto Sales (Mil.)	7.3	7.8	7.8	8.0	8.0	8.1	8.1	8.1	8.1	8.1	8.1	8.1	1.7	4.5	0.2
19 Change *	-16.8	30.5	3.7	7.4	3.3	0.4	0.5	0.3	0.8	-0.3	-0.5	-0.6			
20 New Light Truck Sales (Mil.)	8.4	8.7	8.9	8.8	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	9.7	2.3	0.2
21 Change *	19.0	17.5	7.4	-3.0	3.3	0.4	0.5	0.3	0.8	-0.3	-0.5	-0.6			
22 Private Housing Starts (Mil.)	0.925	0.985	1.033	1.049	1.077	1.065	1.080	1.080	1.083	1.083	1.099	1.089	7.4	7.7	1.2
23 Change *	-33.7	28.8	20.8	6.5	10.9	-4.4	5.8	0.0	1.1	0.0	5.9	-3.6			
24 Single-Family	0.602	0.625	0.654	0.710	0.722	0.736	0.744	0.763	0.763	0.776	0.790	0.790	4.3	14.5	5.2
25 Multi-Family	0.323	0.360	0.379	0.340	0.355	0.329	0.336	0.317	0.320	0.307	0.309	0.299	13.6	-4.7	-7.6
26 Existing Home Sales (Th.)	4603.3	4866.7	5123.3	5073.5	5120.3	5097.7	5099.4	5108.8	5091.3	5099.3	5109.8	5096.5	-3.1	3.9	-0.1
27 Change *	-24.8	24.9	22.8	-3.8	3.7	-1.8	0.1	0.7	-1.4	0.6	0.8	-1.0			

A = Actual; E = Forecast

* Annualized percent change

Except where noted, all data in billions of dollars

Historical sources: BEA, BLS, and Federal Reserve

November 26, 2014

Baseline Economic Outlook

Corporate and International Sectors

	2014				2015				2016				Year-over-Year Growth		
	I(A) 2014	II(A) 2014	III(A) 2014	IV(A/E) 2014	I(E) 2015	II(E) 2015	III(E) 2015	IV(E) 2015	I(E) 2016	II(E) 2016	III(E) 2016	IV(E) 2016	2014	2015	2016
1 Fixed Business Invest. ('96\$)	2051.5	2099.6	2127.7	2186.1	2206.7	2228.7	2250.0	2274.2	2295.8	2319.9	2344.3	2367.1	6.3	5.8	4.1
2 Change *	1.6	9.7	5.5	11.4	3.8	4.0	3.9	4.4	3.9	4.3	4.3	3.9			
3 Structures	441.9	455.2	459.4	463.5	467.2	471.2	474.5	477.6	480.3	483.8	487.1	490.4	7.9	3.9	2.7
4 Change *	2.9	12.6	3.7	3.6	3.3	3.5	2.8	2.6	2.3	2.9	2.8	2.7			
5 Producer Equip. & Software	1642.0	1679.3	1704.5	1722.7	1739.5	1757.5	1775.5	1796.6	1815.5	1836.1	1857.2	1876.7	5.8	4.8	4.5
6 Change *	1.9	9.4	6.1	4.3	4.0	4.2	4.2	4.8	4.3	4.6	4.7	4.3			
7 Chg. in Bus. Invent. ('96\$)	35.2	84.8	62.8	52.3	51.7	46.8	50.7	48.9	47.8	47.8	47.3	46.6			
8 Chg. in Nonfarm Inventories	33.3	80.7	53.1	48.0	48.4	44.6	49.1	47.7	46.9	47.1	46.7	46.1			
9 Corporate Profits (B.T.)	2297.2	2450.1	2560.3	2648.1	2734.2	2799.4	2858.7	2916.8	2960.2	3010.1	3059.1	3096.6			
10 Corporate Profits (A.T.)	1734.9	1842.2	1926.6	1992.7	2057.5	2106.5	2151.2	2194.9	2227.6	2265.1	2302.0	2330.2	6.4	13.5	7.2
11 Change *	-11.0	27.1	19.6	14.4	13.7	9.9	8.8	8.4	6.1	6.9	6.7	5.0			
12 Internal Funds (A.T.)	1374.4	1451.2	1463.6	1480.7	1485.9	1509.7	1530.1	1550.1	1562.3	1577.9	1597.2	1613.9	-9.7	5.3	4.5
13 Change *	-43.8	24.3	3.5	4.8	1.4	6.6	5.5	5.3	3.2	4.1	5.0	4.2			
14 Dividends	902.8	902.3	898.0	908.6	914.7	926.2	932.3	943.8	953.1	965.5	975.6	988.6	-5.9	2.9	4.5
15 Change *	-31.5	-0.2	-1.9	4.8	2.7	5.1	2.7	5.0	4.0	5.3	4.3	5.4			
16 Output per Hour *	1.1	6.6	2.6	1.7	0.9	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.7	1.7	1.0
17 Hourly Compensation *	3.0	7.5	4.6	4.8	4.2	3.9	3.1	3.3	3.2	3.3	3.3	3.3	4.8	4.3	3.3
18 Unit Labor Costs *	1.9	0.8	1.9	3.0	3.3	2.7	2.0	2.2	2.2	2.3	2.3	2.3	3.0	2.6	2.2

	2014				2015				2016				Year-over-Year Growth		
	I(A) 2014	II(A) 2014	III(A) 2014	IV(A/E) 2014	I(E) 2015	II(E) 2015	III(E) 2015	IV(E) 2015	I(E) 2016	II(E) 2016	III(E) 2016	IV(E) 2016	2014	2015	2016
1 Net Exports ('96\$)	-447.2	-460.4	-409.9	-408.2	-403.5	-400.5	-396.1	-393.3	-389.8	-386.6	-385.1	-383.5			
2 Exports ('96\$)	2026.9	2080.7	2120.3	2132.4	2148.0	2163.5	2179.5	2195.8	2212.4	2229.1	2246.0	2262.9	3.5	3.9	3.0
3 Change *	-9.2	11.0	7.8	2.3	3.0	2.9	3.0	3.0	3.1	3.1	3.1	3.1			
4 Imports ('96\$)	2474.1	2541.1	2530.2	2540.6	2551.5	2564.0	2575.6	2589.1	2602.3	2615.7	2631.0	2646.4	3.3	1.9	2.1
5 Change *	2.2	11.3	-1.7	1.7	1.7	2.0	1.8	2.1	2.0	2.1	2.4	2.4			
6 Trade-Weighted Index	76.9	76.4	77.8	77.9	77.8	77.4	77.6	77.1	77.6	77.1	77.3	77.3	1.8	0.3	-0.2

A = Actual; E = Forecast

* Annualized percent change

Except where noted, all data in billions of dollars

Historical sources: BEA, BLS, and Federal Reserve

November 26, 2014

Outlook for Interest Rates

Market-Based Forecasts: Futures Market over the Next Three Years

Futures market does not see tighter policy until at least the second half of 2015

Futures market has been rolling the likely shift in policy month by month

For example, a year ago, the futures market put tighter policy in the second half of 2014

Recently the start date of FOMC tightening has stabilized to a range over the middle six months of 2015

This is consistent with Federal Reserve's stated interest rate policy and its "forward guidance"

- ❑ Near zero rates for as long as it is needed
- ❑ Move toward tighter policy not seen until the unemployment rate drops below 6.5% or the core consumption deflator above 2%
- ❑ Unemployment is beneath 6.5% but official concern remains over the low core inflation rate

Implicit Rates on Federal Funds Futures Contracts for Settlement on 11/24/14

14-Nov	0.095	16-May	0.910
14-Dec	0.110	16-Jun	0.980
15-Jan	0.110	16-Jul	1.060
15-Feb	0.115	16-Aug	1.145
15-Mar	0.125	16-Sep	1.205
15-Apr	0.135	16-Oct	1.280
15-May	0.150	16-Nov	1.360
15-Jun	0.175	16-Dec	1.430
15-Jul	0.230	17-Jan	1.505
15-Aug	0.265	17-Feb	1.595
15-Sep	0.315	17-Mar	1.655
15-Oct	0.390	17-Apr	1.730
15-Nov	0.445	17-May	1.790
15-Dec	0.515	17-Jun	1.845
16-Jan	0.600	17-Jul	1.905
16-Feb	0.670	17-Aug	1.950
16-Mar	0.740	17-Sep	2.005
16-Apr	0.820	17-Oct	2.060

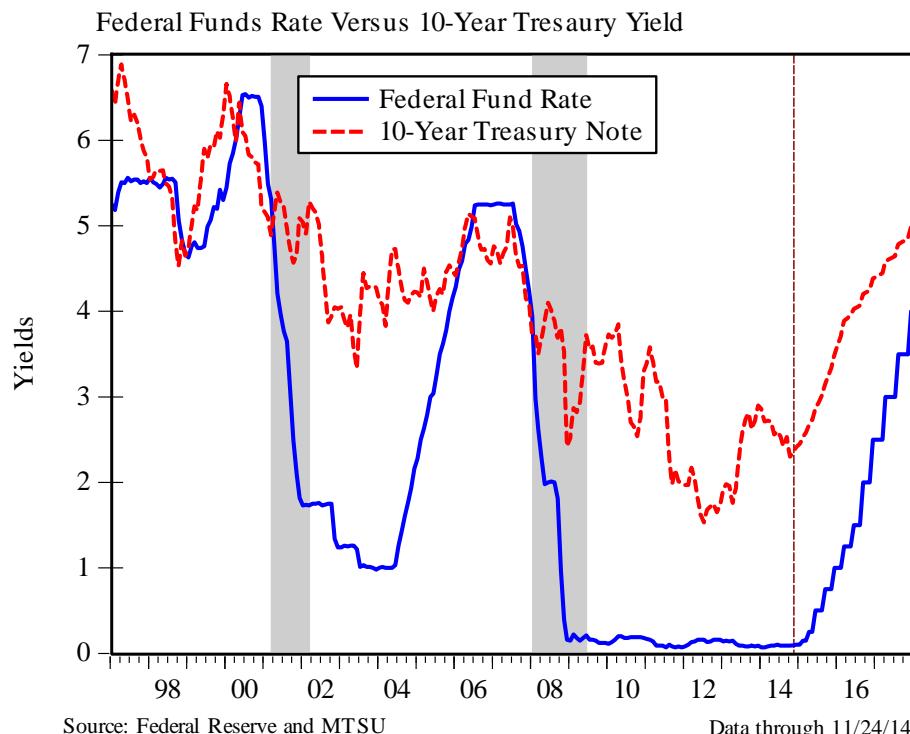
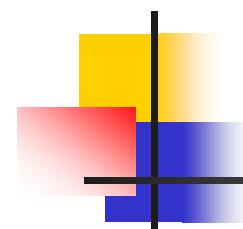
Long-Term Outlook in Perspective

Interest Rates	MTSU					Latest Long-Range Estimates From CONGRESSIONAL BUDGET OFFICE*					Blue Chip Consensus results from December 2014 Issue of the Blue Chip Financial Forecasts													
	Average For The Year					Average For The Year					Average For The Year													
	2016	2017	2018	2019	2020	2021-2025	2016	2017	2018	2019	2020	2021-2025	2016	2017	2018	2019	2020	2020-2024						
1. Federal Funds Rate	1.6	3.1	4.0	4.0	4.0	4.0	na	na	na	na	ns	na	1.8	2.9	3.6	3.7	3.7	3.6						
2. Prime Rate	4.6	6.1	7.0	7.0	7.0	7.0	na	na	na	na	na	na	4.7	5.8	6.5	6.6	6.6	6.5						
3. LIBOR, 3-Mo.	1.9	3.5	4.4	4.4	4.4	4.4	na	na	na	na	na	na	2.1	3.2	3.7	3.9	3.9	3.8						
4. Commercial Paper, 1-Mo.	1.8	3.4	4.3	4.3	4.3	4.3	na	na	na	na	na	na	1.9	3.0	3.5	3.7	3.7	3.7						
5. Treasury Bill Yield, 3-Mo.	1.6	3.2	4.1	4.1	4.1	4.1	1.1	2.1	3.1	3.5	3.5	3.5	1.8	2.9	3.4	3.6	3.6	3.5						
6. Treasury Bill Yield, 6-Mo.	1.8	3.3	4.2	4.3	4.5	4.3	na	na	na	na	na	na	2.0	3.0	3.6	3.7	4.7	3.6						
7. Treasury Bill Yield, 1-Yr.	2.1	3.6	4.5	4.6	4.7	4.6	na	na	na	na	na	na	2.1	3.2	3.7	3.8	3.8	3.7						
8. Treasury Note Yield, 2-Yr.	2.6	4.0	4.9	5.0	5.2	5.0	na	na	na	na	na	na	2.5	3.4	3.9	4.0	4.0	4.0						
10. Treasury Note Yield, 5-Yr.	3.3	4.3	4.9	5.2	5.5	5.2	na	na	na	na	na	na	3.1	3.8	4.2	4.3	4.3	4.3						
11. Treasury Note Yield, 10-Yr.	4.0	4.7	5.1	5.4	5.6	5.4	3.8	4.2	4.6	4.7	4.7	4.7	3.7	4.3	4.6	4.7	4.7	4.6						
12. Treasury Note Yield, 30-Yr.	4.6	5.1	5.4	5.8	6.1	5.8	na	na	na	na	na	na	4.3	4.8	5.0	5.1	5.2	5.1						
13. Corporate Aaa Bond Yield	5.7	6.4	6.8	7.1	7.3	7.1	na	na	na	na	na	na	5.1	5.6	6.0	6.1	6.1	6.1						
13. Corporate Baa Bond Yield	6.7	7.3	7.8	8.1	8.3	8.0	na	na	na	na	na	na	6.0	6.5	6.8	6.9	7.0	7.0						
14. State & Local Bonds	5.3	5.8	6.2	6.4	6.7	6.4	na	na	na	na	na	na	4.9	5.2	5.4	5.4	5.4	5.3						
15. Home Mortgage Rate	5.8	6.5	6.9	7.2	7.4	7.2	na	na	na	na	na	na	5.2	5.8	6.2	6.3	6.3	6.2						
A. FRB - Major Currency Index	83.3	84.0	84.1	83.6	83.3	83.7	na	na	na	na	na	na	83.6	83.3	82.7	82.4	82.8	82.0						
% change, year-over-year					Five-Year Average		% change, year-over-year					Five-Year Average		% change, year-over-year					Five-Year Average					
Major Assumptions					2016	2017	2018	2019	2020	2021-2025		2016	2017	2018	2019	2020	2021-2025		2015	2016	2017	2018	2019	2020-2024
B. Real GDP	2.6	2.7	2.7	2.7	2.8	2.7	3.5	3.0	2.4	2.3	2.3	2.1	2.8	2.8	2.6	2.4	2.4	2.3						
C. GDP Chained Price Index	2.1	2.3	2.2	2.2	2.2	2.2	1.7	1.9	2.0	2.0	2.0	2.0	2.0	2.2	2.2	2.1	2.1	2.1						
D. Consumer Price Index	2.3	2.6	2.6	2.5	2.5	2.5	2.0	2.1	2.2	2.3	2.4	2.4	2.4	2.0	2.0	2.0	1.9	1.9						

*The Budget and Economic Outlook:2014 to 2024 August 2014. CBO's forecasts only extend through 2024, so averages for 2021-2025 are based on the forecast for the four-year period 2021-2024. CBO is required to assume that current law will continue in making

Interest Rate Outlook – Graphic Portrayal

MTSU Baseline Interest Rate Forecast



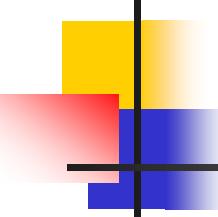
Interest Rate Forecasts

Money Market Rates

	2014				2015				2016				Annual Averages		
	I(A) 2014	II(A) 2014	III(A) 2014	IV(E) 2014	I(E) 2015	II(E) 2015	III(E) 2015	IV(E) 2015	I(E) 2016	II(E) 2016	III(E) 2016	IV(E) 2016	2014	2015	2016
1 Federal Funds	0.07	0.09	0.09	0.10	0.13	0.33	0.58	0.83	1.08	1.33	1.67	2.17	0.09	0.47	1.56
Commercial Paper															
2 1-Month	0.06	0.05	0.07	0.08	0.21	0.45	0.73	1.00	1.29	1.56	1.91	2.42	0.07	0.60	1.79
3 3-Month	0.07	0.07	0.08	0.10	0.25	0.50	0.78	1.06	1.34	1.62	1.97	2.48	0.08	0.65	1.86
4 6-Month	0.10	0.10	0.10	0.12	0.28	0.54	0.82	1.09	1.38	1.66	2.01	2.52	0.11	0.68	1.90
Finance Paper															
5 1-Month	0.07	0.07	0.09	0.10	0.22	0.47	0.74	1.01	1.29	1.56	1.90	2.40	0.08	0.61	1.79
6 3-Month	0.10	0.08	0.10	0.12	0.25	0.51	0.79	1.06	1.35	1.63	1.98	2.49	0.10	0.65	1.86
7 6-Month	0.12	0.11	0.13	0.14	0.29	0.54	0.82	1.09	1.37	1.64	1.99	2.49	0.13	0.68	1.87
Treasury Bills															
8 1-Month	0.05	0.03	0.03	0.03	0.10	0.33	0.59	0.85	1.11	1.37	1.71	2.22	0.03	0.47	1.61
9 3-Month	0.08	0.05	0.05	0.07	0.18	0.42	0.70	0.99	1.31	1.58	1.91	2.39	0.06	0.57	1.80
Eurodollar Deposit															
13 1-Month	0.19	0.18	0.17	0.18	0.27	0.51	0.76	1.03	1.31	1.57	1.91	2.42	0.18	0.64	1.80
14 3-Month	0.26	0.25	0.24	0.26	0.36	0.61	0.87	1.14	1.42	1.69	2.04	2.56	0.25	0.75	1.93
15 6-Month	0.41	0.40	0.36	0.37	0.48	0.71	0.99	1.28	1.59	1.87	2.19	2.67	0.38	0.87	2.08
16 Prime Rate	3.25	3.25	3.25	3.20	3.13	3.33	3.58	3.83	4.08	4.33	4.67	5.17	3.24	3.47	4.56

Sources: Federal Reserve, Federal Home Loan Bank, Federal Home Loan Mortgage Corp
A = Actual; E = Forecast

November 25, 2014



Interest Rate Forecasts

Capital Market Rates

	2014				2015				2016				Annual Averages		
	I(A) 2014	II(A) 2014	III(A) 2014	IV(E) 2014	I(E) 2015	II(E) 2015	III(E) 2015	IV(E) 2015	I(E) 2016	II(E) 2016	III(E) 2016	IV(E) 2016	2014	2015	2016
U.S. Treasury Notes and Bonds															
1 1-Yr Note	0.12	0.10	0.11	0.14	0.27	0.55	0.88	1.23	1.60	1.90	2.22	2.69	0.12	0.74	2.10
2 2-Yr Note	0.37	0.42	0.52	0.53	0.71	1.00	1.33	1.68	2.05	2.37	2.69	3.14	0.46	1.18	2.56
3 5-Yr Note	1.60	1.66	1.70	1.63	1.78	2.00	2.27	2.57	2.90	3.15	3.36	3.65	1.65	2.15	3.26
4 10-Yr Note	2.76	2.62	2.50	2.35	2.52	2.75	3.03	3.36	3.74	3.97	4.11	4.28	2.56	2.91	4.02
5 30-Yr Note	3.68	3.44	3.26	3.07	3.23	3.43	3.68	3.99	4.36	4.57	4.67	4.78	3.37	3.58	4.60
Other Bonds															
6 AAA Bonds	4.44	4.22	4.12	3.96	4.14	4.39	4.69	5.02	5.41	5.64	5.79	5.97	4.18	4.56	5.70
7 BAA Bonds	5.12	4.82	4.74	4.82	5.12	5.40	5.70	6.03	6.41	6.64	6.78	6.96	4.87	5.56	6.70
8 State and Local	4.50	4.33	4.23	3.96	4.03	4.21	4.44	4.72	5.04	5.24	5.36	5.51	4.26	4.35	5.29
Mortgage Rates - Primary Mkt															
9 30-Yr (FHLMC - PMMS)	3.85	4.00	4.14	4.33	4.55	4.75	4.96	5.16	5.32	5.51	5.67	5.78	4.08	4.86	5.57
10 15-Yr (FHLMC - PMMS)	2.63	2.75	2.93	3.19	3.49	3.80	4.11	4.41	4.64	4.94	5.16	5.31	2.87	3.95	5.01
11 ARM (FHLMC - PMMS)	2.52	2.42	2.40	2.44	2.53	2.76	3.05	3.36	3.70	3.97	4.27	4.73	2.45	2.93	4.17

Sources: Federal Reserve, Federal Home Loan Bank, Federal Home Loan Mortgage Corp

A = Actual; E = Forecast

November 25, 2014

The Tennessee Cycle in Perspective

Retail (Taxable) Sales

- Graph to the right is flashing a warning.
- Deceleration in taxable sales growth since its 2010-11 peak has been associated a precursor of a recession in 3 of the four occurrences over that data's history

Personal Income

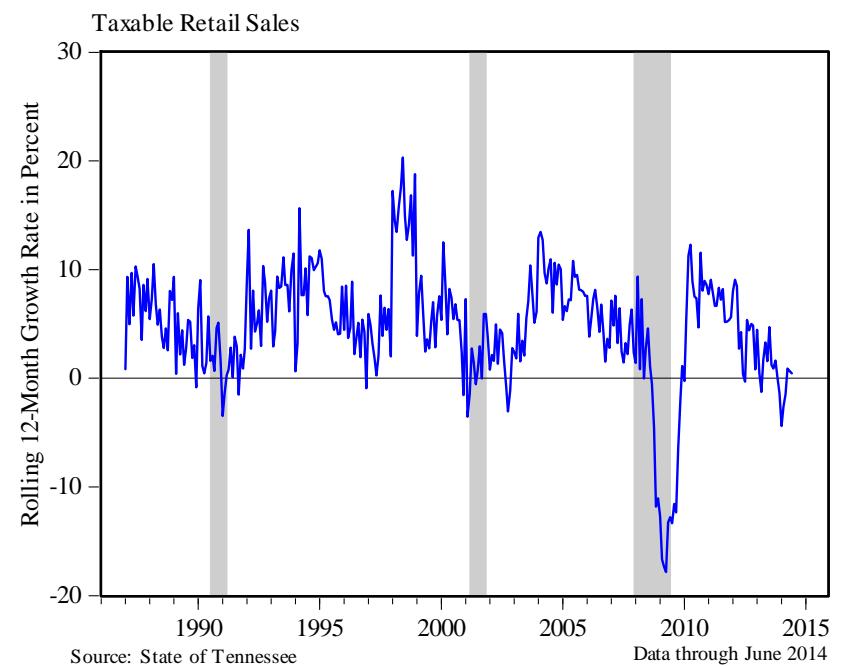
- Tennessee personal income (measured by 4-quarter moving growth rates) moves in line with U.S. personal income growth.

Employment

- Tennessee employment (measured by 4-quarter moving growth rates) moves roughly in line with U.S. employment growth.

Housing

- Tennessee building permits moves in line with U.S. housing starts, adjusted for differences in scale



shaded area represents recession period

Baseline Economic Outlook

Economics Outlook for Tennessee

	2014				2015				2016				Year-over-Year Growth		
	I(A) 2014	II(A) 2014	III(E) 2014	IV(A/E) 2014	I(E) 2015	II(E) 2015	III(E) 2015	IV(E) 2015	I(E) 2016	II(E) 2016	III(E) 2016	IV(E) 2016	2014	2015	2016
National Trends															
1 Civilian Employment (Mil.)	145.4	145.9	146.4	146.8	147.1	147.5	147.8	148.2	148.6	148.9	149.3	149.7	1.5	1.0	1.0
2 Change *	3.5	1.4	1.5	1.1	0.8	1.0	0.9	1.0	1.0	1.0	1.1	1.1			
3 Personal Income	14484.7	14707.7	14860.6	15012.5	15143.0	15284.5	15433.2	15587.1	15743.1	15903.3	16068.5	16234.5	4.2	4.0	4.1
4 Change *	4.9	6.3	4.2	4.2	3.5	3.8	3.9	4.0	4.1	4.1	4.2	4.2			
5 Income Per Employee (T)	99,612	100,806	101,479	102,244	102,917	103,617	104,392	105,179	105,971	106,784	107,612	108,439	2.6	3.0	3.1
6 Change *	1.4	4.9	2.7	3.0	2.7	2.7	3.0	3.0	3.0	3.1	3.1	3.1			
7 Housing Starts (Mil. of Units)	0.925	0.985	1.033	1.049	1.077	1.065	1.080	1.080	1.083	1.083	1.099	1.089	7.4	7.7	1.2
8 Change *	-33.7	28.8	20.8	6.5	10.9	-4.4	5.8	0.0	1.1	0.0	5.9	-3.6			
Tennessee															
9 Nonagricultural Employment (T)	2779.8	2797.3	2806.7	2814.1	2819.5	2826.2	2831.6	2838.8	2846.1	2852.9	2859.9	2867.0	1.8	1.1	1.0
10 Change *	1.3	2.5	1.4	1.1	0.8	1.0	0.8	1.0	1.0	0.9	1.0	1.0			
11 Personal Income	262.5	266.5	269.3	272.1	274.5	277.0	279.6	282.3	285.1	288.0	290.9	293.8	4.1	4.0	4.0
12 Change *	4.5	6.3	4.2	4.2	3.6	3.7	3.9	4.0	4.0	4.1	4.1	4.1			
13 Dividends & Interest	37.3	37.9	38.2	38.7	39.1	39.5	39.9	40.3	40.8	41.3	41.7	42.2	3.6	4.4	4.6
14 Change *	1.3	6.5	4.2	4.8	3.9	4.2	4.2	4.6	4.5	4.7	4.7	4.8			
15 Income Per Employee (T)	94,420	95,280	95,936	96,676	97,355	98,000	98,741	99,459	100,183	100,948	101,722	102,492	2.3	2.9	3.0
16 Change *	3.2	3.7	2.8	3.1	2.8	2.7	3.1	2.9	2.9	3.1	3.1	3.1			
17 Retail Sales	95.5	97.7	98.9	100.0	101.1	102.3	103.1	104.1	105.1	106.2	107.4	108.6	0.6	4.8	4.0
18 Change *	-6.0	9.4	5.0	4.5	4.8	4.6	3.4	4.0	3.7	4.1	4.6	4.6			
19 Single-Family Building Permits (T)	15,854	16,649	18,487	18,840	19,028	19,259	19,584	19,925	20,159	20,337	20,643	20,776	7.9	11.4	5.3
20 Change *	-13.9	21.6	52.0	7.8	4.1	4.9	6.9	7.1	4.8	3.6	6.2	2.6			
21 Total Building Permits (T)	26,549	23,415	22,622	22,877	23,000	23,332	23,490	23,737	24,043	24,172	24,385	24,837	5.5	-2.0	4.1
22 Change *	45.8	-39.5	-12.9	4.6	2.2	5.9	2.7	4.3	5.3	2.2	3.6	7.6			

Note: Except where noted, all data in billions of dollars.

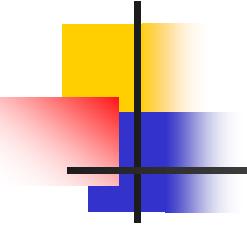
Historic sources: BEA, BLS, State of Tennessee

T=Thousands of units, persons, or dollars

November 30, 2014

A = Actual; E = Forecast

* Quarter-to-quarter percent changes expressed at compound annual rates.



Baseline Economic Outlook

Economic Assumptions—Fiscal Year Basis

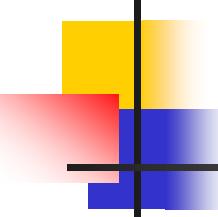
	FY04-05	FY05-06	FY06-07	FY07-08	FY08-09	FY09-10	FY10-11	FY11-12	FY12-13	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18
1 Personal Income (Bil \$)	186.4	196.2	206.1	216.6	217.8	220.0	231.7	244.4	254.9	261.6	273.2	283.8	295.4	307.5
2 Chg@	4.9	5.3	5.0	5.1	0.6	1.0	5.3	5.5	4.3	2.7	4.4	3.9	4.1	4.1
3 Nonagricultural Employment (Mil)	2.7	2.8	2.8	2.8	2.7	2.6	2.6	2.7	2.7	2.8	2.8	2.8	2.9	2.9
4 Chg@	1.6	1.6	0.8	0.4	-3.8	-3.5	1.3	2.2	1.5	1.6	1.5	0.9	1.0	1.0
5 Income Per Employee (Th \$)	68.4	70.9	73.9	77.3	80.8	84.6	87.9	90.8	93.3	94.3	97.0	99.8	102.9	106.1
6 Chg@	3.2	3.6	4.2	4.6	4.5	4.7	3.9	3.3	2.8	1.1	2.9	2.9	3.1	3.1
7 Retail Sales (Bil \$)	79.2	85.0	88.9	92.0	83.2	82.8	89.4	94.5	96.9	96.9	100.6	104.6	109.2	114.2
8 Chg@	8.3	7.4	4.5	3.5	-9.5	-0.5	8.0	5.8	2.5	0.0	3.8	4.0	4.4	4.6
9 Building Permits (Th of Units)	37.2	40.2	34.1	21.4	11.7	13.1	10.2	12.3	15.0	16.4	18.9	20.0	20.9	21.3
10 Chg@	3.3	8.0	-15.1	-37.3	-45.1	11.4	-22.0	20.3	22.0	9.2	15.6	5.8	4.6	1.6

* Millions of dollars

@ Annual Percent Change

Annual economic data in lines 1, 3, 5, 7, and 9 are calculated in terms of fiscal years ending in IIQ of the calendar year of the noted fiscal year

December 1, 2014



Baseline Economic Outlook

Baseline Revenue Projections

	FY04-05	FY05-06	FY06-07	FY07-08	FY08-09	FY09-10	FY10-11	FY11-12	FY12-13	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18	Forecasts
11 Total Tax Revenue*	9,638.6	10,290.8	11,066.5	11,194.5	10,199.7	10,089.0	10,519.9	11,387.8	11,761.3	11,793.9	12,166.7	12,551.1	12,948.7	13,355.2	
12 Chg@	6.0	6.8	7.5	1.2	-8.9	-1.1	4.3	8.2	3.3	0.3	3.2	3.2	3.2	3.1	
13 Sales and Use Tax*	6,091.5	6,515.6	6,810.2	6,856.6	6,331.3	6,188.6	6,474.6	6,899.9	7,026.0	7,274.2	7,530.3	7,797.7	8,090.9	8,383.4	
14 Chg@	4.8	7.0	4.5	0.7	-7.7	-2.3	4.6	6.6	1.8	3.5	3.5	3.6	3.8	3.6	
15 Income Tax*	155.9	194.4	248.8	292.1	221.2	171.7	188.6	183.4	263.2	239.1	258.9	268.2	278.7	290.1	
16 Chg@	11.4	24.7	28.0	17.4	-24.3	-22.4	9.8	-2.8	43.5	-9.2	8.3	3.6	3.9	4.1	
17 Gross Receipts Tax*	235.9	241.2	274.3	290.6	315.1	350.6	340.3	376.5	363.0	358.8	361.4	367.6	375.7	383.9	
18 Chg@	7.6	2.2	13.7	6.0	8.4	11.3	-2.9	10.6	-3.6	-1.2	0.7	1.7	2.2	2.2	
19 Excise plus Franchise Taxes*	1,372.0	1,491.6	1,749.1	1,650.4	1,368.7	1,423.6	1,518.4	1,856.5	2,026.0	1,855.4	1,920.3	1,991.3	2,047.5	2,113.1	
20 Chg@	14.5	8.7	17.3	-5.6	-17.1	4.0	6.7	22.3	9.1	-8.4	3.5	3.7	2.8	3.2	
21 Gasoline Tax*	608.1	605.6	612.8	616.8	601.3	607.1	624.2	617.6	616.3	617.0	610.5	617.2	623.5	631.1	
22 Chg@	1.5	-0.4	1.2	0.7	-2.5	1.0	2.8	-1.0	-0.2	0.1	-1.1	1.1	1.0	1.2	
23 Vehicle Registration*	244.2	249.5	259.9	253.7	241.3	239.4	246.0	246.8	255.6	252.8	261.4	264.6	269.4	273.8	
24 Chg@	2.4	2.2	4.1	-2.4	-4.9	-0.8	2.7	0.3	3.6	-1.1	3.4	1.2	1.8	1.6	
25 Fuel Tax*	173.7	180.7	185.7	182.4	154.8	154.6	157.6	160.9	156.9	162.4	164.5	167.6	170.6	173.6	
26 Chg@	3.5	4.0	2.8	-1.8	-15.1	-0.1	1.9	2.1	-2.4	3.5	1.3	1.9	1.8	1.7	
27 Privilege Tax*	264.9	304.9	350.7	314.2	255.6	247.6	251.5	280.9	304.3	309.3	347.8	357.3	366.3	373.8	
28 Chg@	7.7	15.1	15.0	-10.4	-18.7	-3.1	1.6	11.7	8.3	1.6	12.5	2.7	2.5	2.0	
29 All Other Taxes*	492.4	507.3	575.1	737.7	710.3	705.8	718.9	765.3	749.9	724.8	711.6	719.5	726.1	732.5	
30 Chg@	3.7	3.0	13.4	28.3	-3.7	-0.6	1.8	6.5	-2.0	-3.4	-1.8	1.1	0.9	0.9	
Baseline Revenue Forecast	9,638.6	10,290.8	11,066.5	11,194.5	10,199.7	10,089.0	10,519.9	11,387.8	11,761.3	11,793.9	12,166.7	12,551.1	12,948.7	13,355.2	
Chg@	6.0	6.8	7.5	1.2	-8.9	-1.1	4.3	8.2	3.3	0.3	3.2	3.2	3.2	3.1	
Baseline w/o adjustments											12,325.8	12,818.5	13,295.9	13,792.1	
Chg@											4.5	4.0	3.7	3.7	
Consistency Check Forecast											12,285.9	12,772.8	13,306.6	13,868.3	
Chg@											4.2	4.0	4.2	4.2	

* Millions of dollars

@ Annual Percent Change

December 2, 2014